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BOOK REVIEW

Soda science: Making the world safe for Coca-Cola

By Susan Greenhalgh. Chicago: University of Chicago Press, 2024. 354 pp.

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Obesity is a global epidemic. Excess weight is associated with a host of health problems, from diabetes to heart disease and high blood pressure. Toward the end of the second decade of the 21st century, nearly three-quarters of US adults were classified as overweight or obese, and ultraprocessed or "junk" food is widely recognized as playing a prominent role in the global obesity challenge. Reducing consumption of these ultraprocessed foods could devastate "Big Food's" bottom line. In the face of the risk to their profits, companies turned to science and, specifically, research that would divert attention from consumption restriction (and soda taxes) by promoting exercise as a solution to the obesity problem.

In a deeply researched and engagingly written volume, Greenhalgh tells the story of the Coca-Cola Company's role in placing scientific emphasis on exercise (not diet) as the best means of weight control and reduction. *Soda Science* takes us from Coke's corporate headquarters to schools of public health in US universities and to China to explain the development and spread of a particular brand of *product-defense science*.

Coca-Cola—the company, not the beverage—was a major force behind and funder of the International Life Science Institute (ILSI), a Washington, DC–based science organization that focused on nutritional health. In 1995, ILSI selected James O. Hill from the University of Colorado to lead its obesity programs. Hill and his academic collaborators received substantial research funding and professional support to work with ILSI. In turn, they developed a body of research justifying an "energy balance framework," according to which obesity results from consuming more calories than are burned. In this context, Hill and colleagues justified prioritizing exercise, according to Greenhalgh, on the grounds that "measures of key inputs were simply not accurate enough," and that "it was impossible to say whether diet or exercise was more responsible for weight gain" (p. 106). Despite the absence of data to support the claim that exercise can prevent or reduce obesity, Hill promoted his approach without equivocation, suggesting that the issues around diet are too complex to fully unpack and understand.

Greenhalgh never suggests that Coca-Cola–supported scientists falsified data or unambiguously committed fraud. Instead, their research and reasoning were influenced by the funding and other benefits they received. According to Greenhalgh, in the face of the challenges of understanding the causes and remedies for obesity, "the phenomenal benefits scientists enjoyed from working with Coke were a major inducement to stay the course" (p. 132) and to focus on energy balance as the conceptual framework and exercise as the individual remedy. Funding from Coke largely supported the company's preferred topics, as Greenhalgh highlights: "Over half the studies [supported by Coke, which critics analyzed] focused on topics in energy balance, physical activity, diabetes, and obesity, all potentially helpful to Coke's project of defending soda" (p. 81).

Criticisms of Big Food made the news and filled high-profile books, but a devastating blow came in August 2015 when the *New York Times* published a page-one exposé of Coke's research strategy and the company's funding of the Global Energy Balance Network (GEBN), a group of experts worldwide who promoted "exercise-first solutions to the obesity epidemic" (p. 102). The article specifically called out James Hill and his most prominent colleagues.

Coke caved, apologizing for distorting science and misleading the public. The company withdrew support from GEBN and indicated it would alter its funding and transparency practices.

But if the *Times* exposé slowed the company's US efforts to shape science, public health, and the market, matters were different outside the US. From the *Times* article, Greenhalgh turns her attention to China, her area of regional expertise and a valuable case for examining Coke's global research and showing how governmental structures can shape corporate influence. ILSI had a long history in China, beginning in 1993. But while ILSI in the US kept its distance from the federal government, in China it was closely linked to the state. As Greenhalgh highlights,

> In the more authoritarian society of contemporary China, science is subordinate to the state, and available evidence suggests that scientific fields, especially those involved in policy debates, tend to

> be structured hierarchically in such a way that only a few state-approved leaders have a public voice. (p. 141)

Personal connections (*guanxi*) in science, industry, and the state matter, and Greenhalgh highlights how one particular figure moved back and forth across the boundary between ILSI and the Chinese Ministry of Health to shape Chinese policy on obesity. With a long history in the Chinese government, trusted by government officials and Coke executives alike, C. M. Chen ran ILSI-China from within the Ministry of Health. For more than a decade, Chen and ILSI-China shaped the country's approach to obesity.

Chen brought the same scientists whom Coke had supported in the US to China for scientific conferences and policy discussions. Hill visited China six or seven times over a 15-year period. Attendance at ILSI-sponsored conferences in China was by invitation only, and according to Greenhalgh, Chinese scientists and policymakers did not seem to question the claims of Hill and his colleagues. Over time, public pronouncements in China stressed exercise over diet as the means of combating obesity. Through mimicry and trust-based network connections, along with a growing emphasis on market solutions and personal responsibility, US soda science became embedded in Chinese culture.

In *Soda Science*, Greenhalgh does something social scientists *should* do. She uses her training and her position as a faculty member (emerita) to investigate and document what are clearly abuses of corporate power. She has trained a sharply focused analytical lens on a system that promotes and implements policy based on misleading science and scientists. While following the rules of the academic field, she might have been content to only publish a book on the subject with a top-notch scholarly press, a book read primarily by other scholars; she didn't just publish this book. As she notes in her conclusion, Greenhalgh did not want only "to learn the truth." She also sought to hold the actors who manipulated science and public policy for corporate benefit "responsible." To that end, from 2019 to 2021, Greenhalgh published three articles in public health journals. Two articles "documented the impact of Coca-Cola … in skewing China's obesity policy toward physical activity solutions" (p. 259). While correlation and causation are not the same thing, negative press followed Greenhalgh's articles, and in 2021, Coke severed all ties to ILSI. Later, ILSI-China ceased functioning.

Although the exposés and scholarly critiques have ended the uninhibited march of soda science, the aftereffects linger. Indeed, Greenhalgh plausibly suggests that the individual approach to combating obesity, which Coke's obesity scientists promoted—the idea that not policy but individual responsibility is how we should approach the problem—undergirds the current obsession with step counting and fitness tracking.

Greenhalgh aligns her work with science and technology studies. STS is a dynamic and robust field, but too often, STS scholars have focused their scholarly energy on arcane conceptual debates and devoted insufficient attention to using their work to seriously challenge power structures and widespread corruption. More of us should follow Greenhalgh's example of scholarly engagement, and however we each proceed, all would benefit from reading Greenhalgh's excellent book.